

CLAIMS

1/ A method for enhancing the capacity of a cellular radio-communication
5 system, a cell of said system comprising a base station and end-users able to
communicate with said base station by using a first modulation type over a
first channel, said cell experiencing an interference level from distant end-
users communicating with at least one distant base station by using said first
10 communication channel, said method being characterised in that end-users
located in at least one domain of said cell in which said interference level is
lower than a predefined interference level communicate with said base station
by using a second modulation type over a second communication channel,
said second modulation type having a higher efficiency than said first
15 modulation type, the size and location of said domains in said cell depending
on the antenna directivity of said distant end-users and on the relative
positions of said distant base stations and said base station.

2/ A method according to claim 1, characterised in that said end-users are
fixed terminals configured to use said second modulation type if they are
20 located in said domains in which said interference level is lower than said
predefined interference level and said first modulation type if not.

3/ A method according to claim 1, characterised in that said end-users are mobile terminals able to switch between said first modulation type and said second modulation type depending on the domain they are moving to.

- 5 4/ A method according to one of the claims 1 to 3, characterised in that, said first modulation type is 4 QAM and said second modulation type is 16QAM.

- 5/ A method according to one of the claims 1 to 4, characterised in that said first and second communication channels are channels of a frequency and/or
10 time and/or code division multiplex scheme.

- 6/ A cellular radio-communication system, each cell of which comprising a base station and end-users able to communicate with said base station by using a first modulation type over a first communication channel, said cell
15 experiencing an interference level from distant end-users communicating with at least one distant base station by using said first communication channel, said system being characterised in that end-users located in at least one domain of said cell in which said interference level is lower than a predefined interference level communicate with said base station by using a second
20 modulation type over a second communication channel, said second modulation type having a higher efficiency than said first modulation type, the size and location of said domains in said cell depending on the antenna directivity of said distant end-users and on the relative positions of said distant base stations and said base station.

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